

SAFETY DATA SHEET

Creation Date 27-Sep-2010

Revision Date 02-May-2022

Revision Number 3

1. Identification

Product Name Benzaldehyde

Cat No. : A10348

CAS No 100-52-7
Synonyms Benzenecarboxaldehyde; artificial almond oil; benzene carbaldehyde

Recommended Use Laboratory chemicals.
Uses advised against Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet**Company**

Alfa Aesar
Thermo Fisher Scientific Chemicals, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Tel: 800-343-0660
Fax: 800-322-4757
Email: tech@alfa.com
www.alfa.com

Emergency Telephone Number

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660.
After normal business hours, call Carechem 24 at (866) 928-0789.

2. Hazard(s) identification**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|---|------------|
| Flammable liquids | Category 4 |
| Acute oral toxicity | Category 4 |
| Acute Inhalation Toxicity - Vapors | Category 4 |
| Skin Corrosion/Irritation | Category 2 |
| Serious Eye Damage/Eye Irritation | Category 2 |
| Specific target organ toxicity (single exposure) | Category 3 |
| Target Organs - Respiratory system, Central nervous system (CNS). | |

Label Elements**Signal Word**

Warning

Hazard Statements

Combustible liquid
Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation
Harmful if swallowed or if inhaled

**Precautionary Statements****Prevention**

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep cool

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor/physician if you feel unwell

Skin

IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention

Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

Fire

In case of fire: Use CO₂, dry chemical, or foam for extinction

Storage

Store in a well-ventilated place. Keep container tightly closed
Store locked up

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Harmful to aquatic life with long lasting effects

3. Composition/Information on Ingredients

| Component | CAS No | Weight % |
|--------------|----------|----------|
| Benzaldehyde | 100-52-7 | <=100 |

4. First-aid measures

General Advice

If symptoms persist, call a physician.

| | |
|--|---|
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention. |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician. |
| Inhalation | Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur. |
| Ingestion | Clean mouth with water and drink afterwards plenty of water. |
| Most important symptoms and effects | None reasonably foreseeable. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting |
| Notes to Physician | Treat symptomatically |

5. Fire-fighting measures

| | |
|---|---|
| Suitable Extinguishing Media | Water spray, carbon dioxide (CO ₂), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers. |
| Unsuitable Extinguishing Media | No information available |
| Flash Point | 64 °C / 147.2 °F |
| Method - | No information available |
| Autoignition Temperature | 190 °C / 374 °F |
| Explosion Limits | |
| Upper | 8.5 vol % |
| Lower | 1.4 vol % |
| Sensitivity to Mechanical Impact | No information available |
| Sensitivity to Static Discharge | No information available |

Specific Hazards Arising from the Chemical

Combustible material. Containers may explode when heated.

Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO₂).

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health
2

Flammability
2

Instability
0

Physical hazards
N/A

6. Accidental release measures

| | |
|---|--|
| Personal Precautions | Use personal protective equipment as required. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges. |
| Environmental Precautions | Do not flush into surface water or sanitary sewer system. |
| Methods for Containment and Clean Up | Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. |

7. Handling and storage

| | |
|-----------------|---|
| Handling | Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid ingestion and inhalation. Do not get in eyes, on skin, or on clothing. Keep away from open |
|-----------------|---|

flames, hot surfaces and sources of ignition.

Storage.

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. Keep under nitrogen. Incompatible Materials. Strong oxidizing agents. Strong reducing agents. Strong bases. oxygen. Aluminium. copper. Copper alloys. Alkali metals.

8. Exposure controls / personal protection

Exposure Guidelines**Engineering Measures**

Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment**Eye/face Protection**

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

| | |
|--|--------------------------|
| Physical State | Liquid |
| Appearance | Clear |
| Odor | bitter almonds |
| Odor Threshold | No information available |
| pH | 5.9 |
| Melting Point/Range | -26 °C / -14.8 °F |
| Boiling Point/Range | 179 °C / 354.2 °F |
| Flash Point | 64 °C / 147.2 °F |
| Evaporation Rate | No information available |
| Flammability (solid,gas) | Not applicable |
| Flammability or explosive limits | |
| Upper | 8.5 vol % |
| Lower | 1.4 vol % |
| Vapor Pressure | No information available |
| Vapor Density | No information available |
| Specific Gravity | 1.043 |
| Solubility | No information available |
| Partition coefficient; n-octanol/water | No data available |
| Autoignition Temperature | 190 °C / 374 °F |
| Decomposition Temperature | No information available |
| Viscosity | No information available |
| Molecular Formula | C7 H6 O |
| Molecular Weight | 106.12 |

10. Stability and reactivity

Reactive Hazard

None known, based on information available

| | |
|---|---|
| Stability | Light sensitive, Air sensitive. |
| Conditions to Avoid | Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition. Exposure to air. Exposure to light. |
| Incompatible Materials | Strong oxidizing agents, Strong reducing agents, Strong bases, oxygen, Aluminium, copper, Copper alloys, Alkali metals |
| Hazardous Decomposition Products | Carbon monoxide (CO), Carbon dioxide (CO ₂) |
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions | None under normal processing. |

11. Toxicological information

Acute Toxicity

Product Information Component Information

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|--------------|------------------|---------------------|-------------------|
| Benzaldehyde | 1430 mg/kg (Rat) | 2500 mg/kg (Rabbit) | 1-5 mg/L/4h (Rat) |

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|------------------------|--|
| Irritation | Irritating to eyes and skin |
| Sensitization | No information available |
| Carcinogenicity | The table below indicates whether each agency has listed any ingredient as a carcinogen. |

| Component | CAS No | IARC | NTP | ACGIH | OSHA | Mexico |
|--------------|----------|------------|------------|------------|------------|------------|
| Benzaldehyde | 100-52-7 | Not listed | Not listed | Not listed | Not listed | Not listed |

Mutagenic Effects Not mutagenic in AMES Test

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure Respiratory system Central nervous system (CNS)
STOT - repeated exposure None known

Aspiration hazard No information available

Symptoms / effects, both acute and delayed Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

Endocrine Disruptor Information No information available

Other Adverse Effects Tumorigenic effects have been reported in experimental animals.

12. Ecological information

Ecotoxicity

Contains a substance which is: Very toxic to aquatic organisms. The product contains following substances which are hazardous for the environment.

| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|-----------|------------------|-----------------|----------|------------|
|-----------|------------------|-----------------|----------|------------|

| | | | | |
|--------------|------------|--|------------|------------|
| Benzaldehyde | Not listed | LC50: 10.6 - 11.8 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: = 12.69 mg/L, 96h static (Oncorhynchus mykiss) LC50: 0.8 - 1.44 mg/L, 96h flow-through (Lepomis macrochirus) LC50: = 7.5 mg/L, 96h static (Lepomis macrochirus) LC50: 6.8 - 8.53 mg/L, 96h flow-through (Pimephales promelas) | Not listed | Not listed |
|--------------|------------|--|------------|------------|

Persistence and Degradability Persistence is unlikely

Bioaccumulation/ Accumulation No information available.

Mobility . Will likely be mobile in the environment due to its water solubility.

| Component | log Pow |
|--------------|---------|
| Benzaldehyde | 1.5 |

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No UN1990
 Proper Shipping Name BENZALDEHYDE
 Hazard Class 9
 Packing Group III

TDG

UN-No UN1990
 Proper Shipping Name BENZALDEHYDE
 Hazard Class 9
 Packing Group III

IATA

UN-No UN1990
 Proper Shipping Name Benzaldehyde
 Hazard Class 9
 Packing Group III

IMDG/IMO

UN-No UN1990
 Proper Shipping Name Benzaldehyde
 Hazard Class 9
 Packing Group III

15. Regulatory information

United States of America Inventory

| Component | CAS No | TSCA | TSCA Inventory notification - Active-Inactive | TSCA - EPA Regulatory Flags |
|--------------|----------|------|---|-----------------------------|
| Benzaldehyde | 100-52-7 | X | ACTIVE | - |

Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed
'-' - Not Listed

TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT) Not applicable

TSCA 12(b) - Notices of Export Not applicable

International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

| Component | CAS No | DSL | NDSL | EINECS | PICCS | ENCS | ISHL | AICS | IECSC | KECL |
|--------------|----------|-----|------|-----------|-------|------|------|------|-------|----------|
| Benzaldehyde | 100-52-7 | X | - | 202-860-4 | X | X | X | X | X | KE-02713 |

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

U.S. Federal Regulations

SARA 313 Not applicable

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA - Occupational Safety and Health Administration Not applicable

CERCLA Not applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|--------------|---------------|------------|--------------|----------|--------------|
| Benzaldehyde | X | X | X | - | - |

U.S. Department of Transportation

Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

Authorisation/Restrictions according to EU REACH Not applicable

| Component | CAS No | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|--------------|----------|---|---|---|
| Benzaldehyde | 100-52-7 | - | - | - |

Safety, health and environmental regulations/legislation specific for the substance or mixture

| Component | CAS No | OECD HPV | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|--------------|----------|----------|------------------------------|---------------------------|--|
| Benzaldehyde | 100-52-7 | Listed | Not applicable | Not applicable | Not applicable |

| Component | CAS No | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|--------------|----------|---|--|----------------------------|------------------------------------|
| Benzaldehyde | 100-52-7 | Not applicable | Not applicable | Not applicable | Not applicable |

16. Other information

Prepared By Health, Safety and Environmental Department
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Disclaimer

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End of SDS